

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

5

**MEMORY ARRAY WITH TWO-TERMINAL CROSSPOINTS  
USING SILICON-RICH INSULATOR**

10

**CROSS-REFERENCE TO RELATED APPLICATION**

This application is related to co-pending and commonly assigned U.S.  
application serial number 10/867307, filed June 14, 2004, the entire disclosure  
15 of which is incorporated herein by reference.

**TECHNICAL FIELD**

This invention relates generally to arrays of memory devices and methods for  
their fabrication.

20 **BACKGROUND**

Markets for computers, video games, televisions, portable telephones, PDAs  
and other electrical devices are requiring increasingly larger amounts of memory  
to store images, photographs, videos, movies, music, and other storage-  
intensive data. At the same time, as computer and other electrical equipment  
25 prices continue to drop, the manufacturers of storage devices, such as memory  
devices and hard drives, need to lower the cost of their components. Thus, in  
addition to the need to increase the storage density of their devices,